WQB "Wide Aperture Quad" for Main Injector

3 March 2005, 9:00 AM
IB2 conference room

Attendees: Linda Alsip, Bruce Brown, Weiren Chou, Dave Harding, Jim Jablonski, Vladimir Kashikhin, Ioanis Kourbanis, John Zweibohmer

Design

The agreement is to match the integrated strength of the WQB magnet to the integrated strength of the IQB at the high end of the excitation curve. AD/EES does not care whether the trim coil runs in parallel or antiparallel with the main coil, so we will aim to match at the top to maximize the tuning range. Vladimir and Dave still need to put together the definitive table of the design parameters. Vladimir will specify the initial core length within a week.

Jim reported that all part drawings of the magnet have been released except for the urethane pads that go between the coils during assembly. Some later assembly drawings remain to be completed, but the major subassemblies are released.

The maximum trim coil current is 28 Ampere.

Beam tubes

The beam tube vendor has just reported that the tooling will not be delivered to them until 18 April. This makes the 11 April delivery of the first tube highly unlikely. In fact, this puts the whole schedule at risk. Gregg Kobliska will be visiting the vendor in two weeks and should add a visit to their tool-maker.

A 4Q120 beam tube is in IB2 for swaging trials.

Procurements

Almost everything is here. The end plates are due today. A couple of pusher plate parts are missing. The curing fixture is in inspection. The trim coil spacer pieces have been inspected and need to have the QCR signed off.

Schedule

Three main coils have been wound and the fourth is in process. Trim coil winding should start next week. Stacking might start next week. The schedule shows the first magnet ready for testing 11 April. We have budgeted four week for measurements of the first magnet and refinement of the design. We will then disassemble the magnet to the point that a beam tube can be inserted. The beam tube is the critical path to completion of the first magnet.

Review

Weiren and Ioanis declined a review of the mechanical design of the magnet. It was agreed that a review of the requirements would be useful to establish the criteria for a successful completion of the prototype effort. We agreed to hold that meeting in four weeks (31 March). At time we will have a report from the visit to the beam tube vendor and can discuss any action that is needed. Dave promised to post a status report in two weeks.

Next meeting in two weeks: Thursday, 31 March 2005. Same time, same place.